



PATENT ABSTRACTS OF JAPAN

(11) Publication number:

08018137 A

(43) Date of publication of application: 19.01.1996

(51) Int. Cl. H01S 3/10

H01S 3/07, H01S 3/094, H01S 3/17

(21) Application number: 06145147

(22) Date of filing: 27.06.1994

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(54) HIGH OUTPUT OPTICAL AMPLIFIER

(57) Abstract:

PURPOSE: To provide a high output optical amplifier which can provide a sufficiently high output even when an excitation beam source in the oscillation wavelength isolated from the center absorbing wavelength in the 1G_4 level of Pr is used.

CONSTITUTION: A high power optical amplifier comprises a signal source 6 which is a semiconductor laser of $1.3\mu\text{m}$ oscillation, optical isolators 7, 8, an excitation beam source 4 which generates an excitation beam of the wavelength isolated from the center absorbing wavelength of 1G_4 level of Pr, optical couplers 2, 5, an optical splitter 10 for guiding the excitation beam from the excitation beam source 4 to the optical couplers 2, 5 by splitting the beam into two directions, an optical

fiber 3 for amplification where Pr is doped to the core and an optical beam spectrum analyzer 9. Length of optical fiber 3 for amplification is set longer than the optimum length at the center absorbing wavelength so that sufficient gain can be obtained even with the wavelength of the excitation beam.

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